ABSTRACT OF THE DISCLOSURE

An angle detector 25 detects a rotor angle θ of a DC brushless motor 1 using a current value Iu_s detected by a U-phase current sensor 23 and a current value Iw_s detected by a W-phase current sensor 24 when high-frequency voltages vu, vv, vw for detecting a rotor angle are applied by a high-frequency adding unit 21. The high-frequency adding unit 21 determines the high-frequency voltages vu, vv, vw so that the direction of rotation of the motor 1 and the direction of a revolving magnetic field generated by the high-frequency voltages vu, vv, vw will be opposite to each other. A three-phase/dq converter 26 converts the current values Iw_s, Iu_s into a detected d-axis current Id_s and a detected q-axis current Iq_s using the rotor angle θ detected by the angle detector 25.